Construction

Sikadur®-42

3-part, high performance, pourable epoxy grouting system

Product Description	Sikadur®-42 is a three-component, high performance, high precision, low exothermic, pourable, and solvent-free, and epoxy grouting system. For use at ambient temperatures between +10°C to +35ºC
Uses	High-Strength grouting and fixing of: ■ Starter bars ■ Anchors ■ Fasteners ■ Tie rods ■ Crash barrier posts ■ Fence and railing posts Under-grouting and bedding of : ■ Base plates ■ Machine bases, Seat base-plates for light and heavy machinery including heavy impact and vibratory machinery, reciprocating engines compressors, pumps, presses etc ■ Bridge bearings ■ Mechanical Joints (i.e road/bridge/deck types etc) Sleeper-less, direct rail fixing: ■ Crane tracks ■ Light rail and permanent way in tunnels ■ Light rail and permanent way over bridges
Characteristics / Advantages	■ High Early Strength ■ Ready-to –mix, pre batched units ■ Non-shrink ■ Corrosion and chemically resistant ■ Stress and impact resistance ■ High Compressive Strength ■ High Vibration resistance ■ Low coefficient of thermal expansion

Product Data

Appearance/ Colour	Concrete Grey
Colours	Part A: Clear Part B: Transparent Pale Yellow Part C: grey Part A+B+C mixed: Concrete grey
Packaging	15 kg (A+B+C) : Pre-batched unit Part A: 2.00 kg plastic container Part B: 1.00 kg plastic container Part C: 12.00 kg bag
Storage	12 months from date of production if stored properly in original unopened, sealed and undamaged packaging, in dry conditions at temperatures between +10°C and +35°C. Protect from direct sunshine.

Technical Data

Chemical Base	Epoxy resin.	
Mixed Density	2000 kg/m3 at +27°C	
Layer Thickness	Minimum grout depth: 10mm Maximum grout depth: 40mm When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.	
Thermal Stability	Heat Deflection Temperature (HDT): HDT = +54°C (7 days / +30°C)	(According to ASTM D-648)
Effective Bearing Area	> 85%	(According to ASTM C 1339)

Mechanical / Physical Properties

Compressive Strength (According to ASTM C 579)

Curing time	Curing temperature(+30°C)
1 day	~40 N/mm²
3 days	~50 N/mm²
7 days	~65 N/mm²

Flexural Strength	~25 N/mm²	(According to EN 196)
Tensile Strength	~12 N/mm²	(According to ASTM D 638)
Bond Strength	> 11 N/mm2 (concrete failure) (slant shear)	(According to ASTM C882)

System Information

Application Details

Consumption / Dosage	2000kg/m^3
Substrate Quality	Verify the substrate strength (concrete, masonry, natural stone). The substrate surface (all types) must be clean and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc. Steel substrates must be de-rusted similar to Sa 2.5. The substrate must be sound and all loose particles must be removed.
Substrate Preparation	Concrete, mortar, stone, bricks: Substrates must be sound, clean and free from laitance, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface. Steel: Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blast cleaning and vacuum. Avoid dew point conditions.

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +35°C max.
Ambient Temperature	+10°C min. / +35°C max.
Material Temperature	Sikadur®-42 must be applied at temperatures between +15°C and +35°C.

Application Instructions

Mixing	Part A : B : C = 4.5 : 1 : 12 by weight (Standard)
Mixing Time	Pre-batched units: Mix components A and B in the component A pail for approx. 30-60 seconds with a

paddle type mixer to a low speed drill (300-450 rpm). Avoid aeration while mixing until the material becomes uniformly blended in colour and viscosity. Place the mixed epoxy into an appropriate mixing vessel. Slowly add the contents of component C (to keep air entrapment at a minimum) dependent on flow requirements (observe the correct mixing ratio) and mix until uniform and homogeneous. (approx. 3 min)

Mix only that quantity which can be used within its pot life.

Application Method / Tools

Forming:
The consistency of the Sikadur®-42 epoxy grout system requires the use of permanent or temporary forms to contain the material around base plates, for example. In order to prevent leakage or seepage, all of these formers must be sealed. Apply polyethylene film or wax to all forms to prevent adhesion of the grout. Prepare the formwork to maintain more than 100 mm liquid head to facilitate placement. A grout box equipped with an inclined trough attached to the form will enhance the grout flow and minimize air encapsulation.
Pour the mixed grout into the prepared forms from one or two sides only, to eliminate air entrapment. Maintain the liquid head to ensure intimate contact to the base plate. Place sufficient epoxy grout in the forms to rise slightly above the underside (3 mm) of the base plate. The minimum void depth beneath the base plates shall be 25 mm. Where the void beneath the base plate is greater than 75 mm, place the epoxy grout in successive 40 mm lifts or less, once the preceding lift has cooled.

Once hardened check the adhesion by tapping with a hammer.

Working at high temperatures: 

It is recommended when working with Sikadur®-42 at high temperatures that the following guidelines should be observed:

- Prior to use store the unmixed materials in a cool, preferably temperature controlled environment, avoiding exposure to direct sunlight or other heat sources.
- Refer to the data sheet of the specific product and closely follow the instructions in the section “storage conditions”.
- Keep all equipment cool, arranging shade and protection where necessary. It is especially important to keep cool all surfaces that will come into direct contact with the material.
- Try to avoid application during the hottest times of the day.
- Provide sufficient material, plant and labour to ensure that the application is a continuous process and that the grout does not stop moving during flow application process.

Important Note: When both the materials and/or the substrates are too hot, the potlife will decrease dramatically!

Please refer to Method statement on use Epoxy Grouting for details

Cleaning of Tools

Sweep excess grout into appropriate containers for disposal before it has hardened. Dispose of in accordance with applicable local regulations. Uncured material can be removed with Sika® Colma Cleaner. Cured material can only be removed mechanically.

Pot life

(According to FIP 5.1)

Mixing Ratio	+30°C	Test quantity
2 : 1 : 12	15 minutes	100 g mass

The pot life begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the pot life. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill parts A+B and C before mixing them (i.e. only when application temperatures are above +20°C).

Construction

Notes on Application / Limitations

Minimum substrate temperature: +10°C. The material must be conditioned by being stored in an area with an ambient temperature between +10°and +30°C for a minimum of 48 h before using. Do not thin with solvents. Solvents will prevent proper curing and change mechanical properties.

Sikadur®-42 is a vapour barrier when cured. Minimum grout depth: 25 mm. Maximum grout depth: 40 mm per lift. Component C must be kept dry. For specific bolt grouting applications please refer to Sika Technical Services. For proper seating, allow the grout to rise above the bottom (3 mm) of the base plate.

Avoid splitting pre batched units to mix. Mix complete units only. Cold ambient, substrate or material temperatures will influence the curing and flow characteristics of Sikadur®-42. Do not subject cured epoxy grout to sudden temperature changes especially during early curing stages. Contact Sika Technical Services for control joint spacing on large base plate grouting projects.

Value Base

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Legal Notes

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